PLANT PROTECTION BULLETIN

A Publication of the
WORLD REPORTING SERVICE ON PLANT DISEASES AND PESTS

VOL. VI, No. 10 JULY 1958

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME

FAO PLANT PROTECTION BULLETIN

is issued as a medium for the dissemination of information received by the World Reporting Service on Plant Diseases and Pests, established in accordance with the provisions of the International Plant Protection Convention, 1951. It publishes reports on the occurrence, outbreak and control of pests and diseases of plants and plant products of economic significance and related topics, with special reference to current information. No responsibility is assumed by FAO for opinions and viewpoints expressed in the Bulletin.

Manuscripts for publication, or correspondence regarding the World Reporting Service, should be addressed to Dr. Lee Ling, Plant Production Branch, Agriculture Division, FAO, Viale delle Terme di Caracalla, Rome, Italy; subscriptions and other business correspondence to the Distribution and Sales Section, FAO, Viale delle Terme di Caracalla, Rome, Italy.

The Bulletin is issued monthly in English, French, and Spanish, and twelve numbers, commencing with the October issue in each year, constitute a volume. Subscription rates are $ 3.00 or 15s. per annum; single numbers are priced at $ 0.30 or 1s. 6d. The citation is FAO Plant Protection Bulletin, or, in abbreviation, FAO Plant Prot. Bull.

FAO Plant Protection Bulletin

Vol. VI, No. 10 A Publication of the July 1958

World Reporting Service on Plant Diseases and Pests

Requirements of a Post-entry Quarantine Station [1]

F. M. L. Sheffield

East African Agriculture and Forestry Research Organisation, Kikuyu, Kenya

The purpose of post-entry quarantine is to intercept serious diseases. Some of these may not be detected when plant materials are inspected in the country of origin or at the port of entry, and others may always remain symptomless in the particular plant variety imported. Consequently, strict scientific supervision by specialists in pathology is the primary essential of a quarantine station. The pathologists' function is not only to diagnose disease but to consider the special problems presented by each new species imported, to suggest any tests which should be done, any treatments which should be given, for how long the plants should be isolated and to ensure that all necessary precautions are taken. Almost as important is good horticultural practice. It is desirable that plants should grow well and multiply while in quarantine; but more important, if they do not grow well, diagnosis of disease becomes an impossibility. No one can say whether or not a plant is carrying pathogens if it is suffering from a deficiency disease or any kind of neglect.

Escapes of pathogens from quarantine glasshouses must be prevented, and to do this there has been a tendency toward over-elaboration in design. Disease may pass through quarantine unnoticed by the introduction of a symptomless carrier of an undescribed disease, a contingency impossible to guard against. Otherwise, escapes will be due to ignorance of existing knowledge of a disease or to carelessness of the quarantine staff; it is very unlikely that pathogens may escape unaided from glasshouses.

In East Africa, plant quarantine stations have been in operation over a quarter of a century. Dr. H.H. Storey, who designed the first station opened at Amani in 1931, had previously designed and organized the South African Sugar Cane Quarantine Station. The Amani Station operated for twenty years; then, because the personnel of the East African Agriculture Research Institute who supervised it were moved to Muguga, this station was closed. Dr. Storey then planned another station to be built at Muguga with glasshouses simpler in design than in either of the other stations for which he had been responsible. But he demanded a high standard from the staff and arranged for supervision by pathologists working in the nearby laboratories of the East African Agriculture and Forestry Research Organisation.

The present East African Plant Quarantine Station is very near the equator but the altitude is 6,800 feet, and in it could be grown any species likely to be imported for cultivation in any of the various climates occurring in East Africa.

Pathologists in countries where postentry quarantine stations are being newly established may be glad to know of some of the features which are regarded as essential or desirable in a station designed for the exclusion of foreign disease while introducing new plants to a country. Having been concerned in the operation of the Muguga Station since its opening, the writer feels justified in offering some suggestions. They will not be confined to a description of what has been done at

[1] Paper presented for discussion at the meeting of experts of the Inter-African Phyto-Sanitary Commission held in Nairobi, Kenya, 14-18 April 1958.

Muguga, but will incorporate improvements considered desirable as a result of the experience in handling a wide range of plant species since the station was opened over four years ago. A station equipped for handling any plant species will be considered; if only one crop is to be quarantined, many of the requirements listed could be modified.

The Site

1. The type of scientific supervision necessary can be obtained only if the station is near a university or a research institute. The responsibility should not rest with a single pathologist, possibly versed only in the diseases of his own country, but the station should be built where a panel of specialists in different types of plant diseases is always available for consultation.

This siting also ensures ready access to another essential, a good phytopathological library.

2. If many different plant species are to be handled at one station, it should be in as cool a place as is practicable; in the tropics, this implies a high altitude. All plants should be quarantined under glass, and, in the perpetually hot humid atmosphere of the tropical coast, to provide the conditions required by plants normally grown in temperate countries or at high altitudes in the tropics, would be difficult and expensive. With the cooler nights and drier conditions usually prevailing at high altitudes, the problem of producing conditions suited to any plant species is little more complicated than the growing of tropical plants under glass in temperate zones.

3. Ideally, the station should be remote from vegetation but this is impracticable. However carefully glasshouses are guarded it is impossible to prevent the entry of insects, fungal spores, etc. It is essential to control these, for their presence may make diagnosis difficult and local insects may be vectors of imported pathogens. Nearby vegetation should therefore be reduced to a minimum of those species least likely to harbor pests or to provide alternative hosts in the unlikely event of an escape of the pathogen from quarantine.

4. There should be easy access to public freight services. As most imported vegetative material will travel best by air, it is especially important that the station be near an airport.

5. The water supply must be clean and plentiful.

6. A source of power must be readily available and also a supply of fuel.

The Staff

1. At least one member of the staff must have received sound training in horticulture and be sufficiently experienced and versatile to handle plant species with widely differing requirements. Not only the loss of imported plants by careless handling must be avoided, but the plants must be grown well in order that the presence of pathogens is to be recognized.

2. The number of staff members entering the quarantine buildings should be kept to a minimum; those who enter must be taught the elements of plant hygiene.

The Glasshouses [2]

1. A large number of small chambers is essential so that consignments of plants can be isolated from each other. We prefer these in the form of small separate units (10 to 12 feet long and 6 feet wide) rather than a single large house divided into compartments. This has the advantage of:

   a) rendering more easy the control of atmospheric conditions within each chamber;

   b) reducing the risk of contamination of the contents of one chamber by diseased material in another; and

   c) allowing gradual expansion of the station by the addition of one or more units as the need arises.

2. The glasshouses should differ in height, or they should all be high enough to accommodate the tallest plants likely to be imported. (Several types of small metal frame glasshouses, which can be readily adapted, are now on the market in Europe; they are available for export and are easily erected.)

3. Each chamber must have separate access but the old system of two doors to

[2] Dr. E. J. F. Buyckx suggested that culture under glass would be impossible in some tropical countries and that the necessary insect-proof conditions could be obtained without its use.

each at a short distance apart seems an unnecessary elaboration.

4. Water should be available in every chamber but care must be taken that no drainage from the houses passes into the open.

5. The floors should be of concrete, with holes for drainage; removable benches should be provided in most houses and all fittings should be so constructed as to be easily cleaned and sterilized.

6. To control atmospheric conditions, chambers should be provided with:

a) several ventilators;
b) an induction fan;
c) easily removable shades;
d) overhead sprinklers to provide a fine mist;
e) cover of gravel or similar material to part of the floor;
f) a gauze door or screen which can be fitted in place of the standard glass door; and
g) thermostatically controlled heating units.

7. To reduce the entry of local insects, each house should be surrounded by a water-filled trough and ventilators and fans should be provided with gauze covers. There should be no exotic insects present, as any imported should have been destroyed before the plants reach the glasshouses.

8. Overhead lighting, together with time switches, should be available for installation in a few houses, in case it should be necessary to prolong the hours of daylight to establish some importations.

Other Buildings and Equipment

1. Sterilization
   a) Facilities must be available under cover for the sterilizing of soil, before and after use, of tools, flower pots, etc.
   b) Provision must be made for the complete destruction of diseased material.
2. Storage
   a) Different composts may be required for different plant species and each ingredient must be sterilized before mixing. Before sterilization these can be stored in the open, but after sterilization they should be stored under cover.
   b) Considerable storage space must be provided for plant containers of many kinds and sizes, tools, fuel, fertilizers and other chemicals.
3. Potting. A small room should be devoted to this purpose alone; it should have a concrete floor with adequate space for the mixing of composts.
4. Laboratory
   a) A small laboratory is required, and it should be so constructed that it can be kept clinically clean.
   b) Adjacent to the laboratory should be a small cubicle with washable walls and floor and empty except for an easily washable bench. It should be possible to seal the cubicle for fumigation, if necessary. All parcels should be opened in this cubicle.
   c) The laboratory should contain a minimum of equipment needed by a pathologist for examination of suspect material, e.g., microscope, dissecting binoculars, slides, forceps and other small instruments. It may also contain equipment necessary for special techniques such as serology, heat therapy, etc. Small sterilizing equipment such as a domestic pressure cooker or small autoclave is needed.
5. Office. Very little office space is needed but provision should be made in it for the secure storage of records, phytosanitary certificates, etc.
6. Sundries
   a) A range of common insecticides, fungicides and some disinfectants should always be available, together with sprayers and other equipment necessary to use them.
   b) Thermohygrographs and maximum and minimum thermometers may sometimes be required.

The buildings used for horticulture should be so constructed that new soil passes into the sterilizer on one side and out on the other where it is stored adjacent to the potting room. Plant containers should be stored close to the potting room. The laboratory and office could be attached to this unit, or it could be contained in a separate building.

General Organization

1. All importations should:
   a) come from the most reliable source known;
   b) be accompanied by the best health certificate which can be given by the exporting country; and
   c) be limited to a very small number of seeds, plants or cuttings of each variety.

2. The officer in charge of the station should receive adequate warning of the expected arrival of a consignment and it should reach him with a minimum of delay on the journey. Regulations should permit such parcels to pass unopened through the customs barriers.

3. Parcels should be opened only in the special cubicle, the contents carefully inspected, and any appropriate treatments given. In some countries all such parcels are fumigated before opening. This is likely to lessen the chances of survival of the plants and, if they come from a reliable source, it is seldom necessary.

4. All packing materials should be burnt.

5. Plants should be potted and each consignment put into a separate glasshouse.

6. Careful records, tabulated as far as possible, should be kept of every plant.

7. If any local insects or fungi enter the houses, appropriate treatment should be given.

8. Further treatment must depend on the species imported and on existing knowledge of the diseases to which it is susceptible.
   a) All plants must be frequently inspected. If suspicious symptoms are seen and the disease is thought to be one not already in the country, it is safest to destroy the whole consignment at once. If the disease is already present in the country, it may be possible to destroy only the affected plants, retaining the others in quarantine longer than usual. If therapeutic methods can be employed without risk, this should be done.
   b) Plants can be tested for the presence of some viruses of which they are known to be symptomless carriers by:
      i) grafting to hosts known to show symptoms;
      ii) mechanical inoculation to hosts known to show symptoms;
      iii) serological methods. At present these are likely to be more difficult and less reliable than methods *i*) and *ii*). Reliable antisera to viruses not in the country may be difficult to obtain and it is not possible to test for a wide range of viruses simultaneously, as can often be arranged by inoculation methods;
      iv) histological examination.
   c) Therapeutic measures against diseases that may show no symptoms in quarantine are sometimes known; these should be applied as a routine measure before plants are released.

9. Infected plants should be destroyed in the glasshouse containing them.

10. The time of retention of an apparently healthy plant in quarantine must depend on existing knowledge of diseases to which the species is susceptible. No plant must be released until it has been tested or treated, or symptoms of all known diseases have had more than sufficient time to develop. It may thus be necessary to retain some species for several years.[3]

In general, no plant known to be diseased should ever be released from quarantine, even if the disease is one already present in the country.

The function of the post-entry quarantine station is to supply the importing country with as many new plant varieties as possible, while at the same time preventing the entry of pests and diseases not already present. Its functions has been served if only one disease-free plant of a new variety has passed through it.

[3] Dr. S. J. du Plessis suggested that, whenever possible the original imported plant materials should be destroyed and only seeds or cuttings from new growth should be released.

Presence of the Tristeza Virus Disease in Egypt

FARID NOUR-ELDIN AND FAYEZ BISHAY

Plant Pathology Section, Ministry of Agriculture, Orman, Egypt

DURING the past nine years the writers have been aware of the danger that threatens the Egyptian citrus industry if the tristeza disease is present or introduced into Egypt. The reason for concern and dread of this disease is because most of the citrus trees of this country are on the susceptible sour orange rootstock.

As part of a survey program for citrus virus and virus-like diseases, many declining trees suspected of being infected with tristeza have been indexed on Mexican lime seedlings.[1] Along with the Mexican lime seedlings, Beledy lime seedlings have been used, in order to see if the latter will serve as an indicator for tristeza, since a seed supply of this variety is available locally. A great many declining or tristeza-like trees in commercial plantings have been tested but no positive tristeza infection has been detected.

Because of results reported by other workers (2,3), it seemed advisable to check the varietal plots of the Ministry of Agriculture, where trees introduced from other parts of the world are growing along with selected local varieties. In October 1957, 85 trees were examined for virus and virus-like diseases in a varietal plot at the Barrage Experiment Station. It was found that four trees exhibited minute bark pits and honeycombing just below the bud union. Such bark pitting has been described as a symptom that usually appears with tristeza infection (1). Two of these four trees were Bergamot budded on sour lime rootstock, the third tree was a Tanarif sweet orange variety budded on sour lime rootstock, and the fourth tree was Valencia budded on sour orange rootstock. The Valencia tree was in very poor condition and the other three trees were in various stages of decline.

[1] The writers wish to express their thanks to Dr. J. M. Wallace, University of California, for kindly supplying seeds of Mexican lime for these tests.

Transmission Test

Budwood from the above-mentioned four trees suspected of being infected with tristeza virus was collected, along with budwood from four neighboring trees that did not show any bud-union disorder. Buds from each of these eight trees were budded on two seedlings of Mexican lime and one seedling of Beledy lime. Every lime seedling received at least two buds, with a piece of wood attached. The lime seedlings were cut back and placed in a greenhouse.

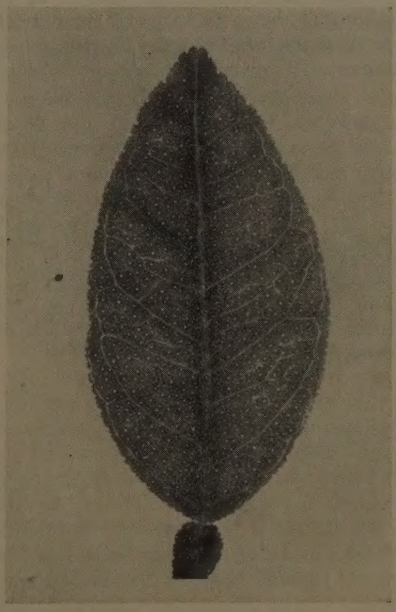

Figure 1. Leaf of a Mexican lime seedling budded with buds from trees suspected of being infected with tristeza, showing the vein-clearing sympton of tristeza.

In January 1958, on examining the test seedlings, it was found that the Mexican lime seedlings budded with buds from the four suspected trees gave the characteristic symptom of tristeza on young leaves. As shown in Figure 1, this was a discontinuous vein-clearing symptom. No such symptoms developed on the sour lime seedlings inoculated from the four apparently healthy trees.

It was noted that the symptoms expressed on the young leaves of the Mexican lime seedlings were far more pronounced than those produced on the Beledy lime seedlings used in this test. The symptoms of the latter were very difficult to detect.

By peeling bark off the upper part of the stem of the infected seedlings, no pronounced stem pitting was observed. This examination was made soon after appearance of leaf symptoms, and possibly there had not been sufficient time for development of strong stem-pitting.

Discussions

Although the presence of the tristeza disease in a varietal plot in Egypt has been experimentally proved, it is not believed that the disease has been spread to any appreciable extent by insects in the citrus orchards. *Toxoptera citricidus*, the efficient vector of tristeza, does not occur in Egypt but *Aphis gossypii*, which transmits the virus much less efficiently, is known to be present.

The conclusion that tristeza virus is not being spread in commercial plantings is based on the results of field surveys and experimental testing of hundreds of suspected tristeza-infected trees. A program for testing varietal introductions and all known imported citrus, as well as parent trees used for commercial budding, is now being organized.

The Beledy lime seedlings used in this test did not react clearly after inoculation from the tristeza-infected trees found in the variety collection. This may have resulted from the use of seedlings that were approximately 1 1/2 years old. Younger Beledy lime seedlings will be tested.

The presence of bark pitting below the bud union of the tristeza-infected trees found in Egypt is in accordance with the observations of Cohen and Knorr (1) in Florida.

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The Effect of Insecticides on Outbreaks of Spider Mites on Cotton

KARIM K. HUSSEINE
Agricultural Research Service, Deir Alla, Jordan

THE first outbreak of spider mites on cotton was reported in 1955 at the Deir Alla Research Station in the Jordan Valley. It is assumed that the mites occurred previously on cotton in this country but they did not cause appreciable damage and therefore remained unnoticed. This first outbreak appeared in a plot that had been treated with endrin emulsion against the spiny bollworm, *Earias insulana* Boisd., causing much alarm. Observations made during 1955 to 1957 show that in the Devi Alla area mites were widespread on cotton, *Tetranychas telarius* L. being the predominant species.

Biology

These spider mites, which attack cotton, overwinter on spontaneous *Malva* sp. and *Convolvulus arvense* but they are not active on these host plants, due to the low winter temperature.

At the end of winter, when temperature rises and air humidity decreases, the mites infest vegetable crops, especially tomato, egg plants and watermelon. On tomato, the mite population reaches its highest point during April and May, when fruit is set. Heavy attacks result in lower yield and a shorter fruiting period. Watermelon is the crop that suffers most from spider attacks in the Jordan Valley, and this pest is considered a limiting factor for growing watermelons.

On cotton, the mite appears in April when the plants are 30 to 40 days old. The population increases gradually and is at its peak from May to July, according to the prevailing weather conditions; during August the mite population begins to decrease.

When sudden outbreaks of the mites occur, the damage becomes significant. The leaves of affected cotton plants turn yellow, and red crimson spots appear on the upper surface. Growth rate and fiber production are both greatly reduced.

Influence of Some Insecticides on the Mite Population

During 1956 it was observed at Deir Alla Research Station and two other places in North Jordan that mite outbreaks occurred only in cotton fields that had been treated with endrin against the spiny bollworm, and that the mite population remained low in untreated areas.

To confirm these observations, a trial was carried out in 1957 in which cotton was treated against the spiny bollworm according to the standard practice, with the following insecticide sprays at the rate of 900 liters per hectare:

Endrin: 0.3 % active ingredient
Gusathion (phosphorous insecticide): 0.08 %
Aldrin: 0.7 %
DDT: 1 %

The first insecticide application was made on 16 May the day after the spiny bollworms first appeared, and two subsequent applications at two weeks' interval on 30 May and 15 June respectively. To follow the development of the mite population, counts were made of the number of mites on 20 leaves from each plot under observation before the insecticidal treatment and several times after the treatment.

The mites were first observed on 15 April and the population remained low in all plots until the end of May. Then, about two weeks after the first insecticide application, it began to increase quickly and reached its

[1] The writer wishes to express his appreciation to Mr. J. Klapperich, FAO entomologist in Jordan, for his collaboration. This paper is published at the permission of H. E. the Minister of Agriculture of Jordan.

TABLE 1. – *Effect of certain insecticides on spider mite population, Deir Alla Research Station, 1957*

Date of observation	Number of mites (nymphs & adults) per 20 leaves [a]				
	endrin-treated	gusathion-treated	aldrin-treated	DDT-treated	check
27 May	668	111	549	246	390
9 June	1 538	363	1 610	572	876
23 June[b]	9	5	4	10	2

[a] Before insecticidal treatment on 12 May, the number of mites was 3 per 20 leaves. Treatments were made on 16 May, 30 May and 15 June.

[b] Systox was applied with all the insecticides indicated on 15 June.

TABLE 2. – *Mite populations in endrin-treated and nontreated areas, Deir Alla Research Station, 1957*

Date of observation	Number of mites (nymphs & adults) per 20 leaves				
	Test field		5 meters from test field	100 meters from test field	500 meters from test field
	endrin-treated	check			
12 May (before treatment)	3	3	3	1	7
27 May	668	390	52	1	7
9 June	1 583	875	190	12	5
23 June[a]	9	2	3	72	3
17 July	12	78	11	2	12

[a] Application of Systox on 15 June.

peak around 9 June, about ten days after the second insecticidal application. To test the effect of an accaricide, Systox was added at a rate of 0.05 percent to all insecticides for the third treatment made on 15 June.

Table 1 shows that at the end of May, about two weeks after the first treatment, the mite population considerably increased in all plots, including the nontreated plot but the increase was most noticeable in endrin- and aldrin-treated plots. Further increases were observed in all plots on 9 June. After the third treatment with the addition of Systox, the mite population in all plots, including the nontreated plot, fell abruptly.

During these trials *Coccinelidae* spp. were observed feeding on eggs, larvae and adults of the mites. Counts made on 40 leaves from the endrin-treated and nontreated plots showed that these predators were about eight times as numerous in the nontreated plot than in the treated plot. This may account for the larger population of mites on endrin-treated plants.

Mite Population in Nonsprayed Areas

In order to have a better understanding of the effect of insecticides on the mite population, observations were also made on cotton plants of the same age in the fields surrounding the test field. Leaves were collected in areas located 5, 100, and 500 meters away from the test field. The number of mites on 20 leaves from each area is compared in Table 2 with the numbers found in the endrin-treated plot and nontreated plots in the test field.

The results indicate that mite populations were uniformly low before the insecticide application in all areas under observation. After the first and second treatments, the populations increased for the most part on endrin-treated plants, but also to a considerable extent in the nontreated plot which was situated in the test field and which was surrounded by treated plants. The increase was also evident in the field 5 meters away from the test field. At a distance of 100 or 500 meters the mite population remained very low throughout the observation period. The application of endrin, therefore, appears to favor mite increase not only on the treated plants but also on those surrounding them, but it apparently has no influence in fields at a further distance.

Summary

Spider mites infest cotton in the Jordan Valley around mid-April. Heavy mite infestation was found in all plots treated with insecticides, as well as on plants near the treated plots. The infestation was most significant in the endrin- and aldrin-treated plots. In nontreated areas the mite population remained very low throughout the growing season.

Outbreaks and New Records

Argentina

JULIO GASTON

Dirección de Acridiología, Ministerio de Agricultura, Buenos Aires

Progress in Grasshopper Control

GRASSHOPPERS (*Dichroplus maculipennis* (Blanch) Lieb. and other species), which are locally called *tucuras*, have for many years caused serious crop losses in the best grazing areas of Argentina. It is estimated that in the provinces of Buenos Aires, Cordoba and La Pampa, where this pest is most prevalent, 9,000,000 hectares are affected.

These grasshoppers are indigenous to the affected area. The overwintering eggs hatch gradually from spring to summer and the insects reach their adult stage after 45 to 50 days; in late summer and autumn each female lays about 200 eggs.

Damage caused by the *tucuras* is most apparent during spring and summer in dry years when pasture grass is scarce, at which time crop land surrounded by pasture is also invaded.

Until recently, grasshopper control was carried out for the most part by the government, with some help from farmers and cattle breeders, although control was compulsory according to National Law No. 4863. Indifference on the part of the landowners was due to lack of efficient economic control methods. Furthermore, the government had been unable to treat the entire infested area within the short space of time during which control could be carried out effectively.

Originally, metallic barriers were used to protect certain crops; later, mechanical devices for collecting the insects, poisoned bait and flame throwers, were utilized, but results proved unsatisfactory and labor costs excessive. For ten years BHC was applied with good results, but gradual hatching over a long period made it necessary to treat the same surface two or three times with BHC for satisfactory control, with resultant high cost.

The introduction in 1955 of insecticides with lasting residual effect (dieldrin and heptachlor) fundamentally altered the prospect of grasshopper control. Pasture which had previously been used only part of the year could now be grazed permanently. This method obviously proved profitable to the owners.

The effectiveness of grasshopper control created much interest among cattle breeders. Simultaneously, the Ministry of Agriculture, through the Acridiology and Pest Control Division, changed the regulations governing grasshopper control, adapting them to present-day conditions. In accordance with the present regulations, all control work is carried out by the farmers and cattle breeders concerned, rather than by the government itself. The campaign covering grasshopper control is directed by *ad honorem* commissions, composed of cattle breeders from affected areas. The commissions are empowered to impose fines on recalcitrant landowners or, on the other hand, to treat their fields against reimbursement. The commissions designate delegates in the rural districts, and the entire organization is directed by a central commission composed of representatives of the main agricultural organizations and government officials.

The last two campaigns were rather encouraging: while previously only 150,000 hectares had been treated mostly by the government, within the past two years 4,703,304 and 5,861,579 hectares respectively have been treated. Evidence of improvement is manifested in the increase in the number of farmers co-operating in this activity: 9,761 farmers in the first year and 15,812 in the second.

The cost of treating one hectare with the new method varies between 14[1] and 17 pesos, whereas previously the cost had been approximately 140 pesos.

Damage caused by grasshoppers in 1954 was estimated at 1,500 million pesos. Following 1954, the intensity of grasshopper infestation did not relax, but losses on the whole were negligible.

The above-mentioned progress in grasshopper control has brought extraordinary improvements in application methods. It has stimulated the establishment of private pest control operator groups which treat the fields for the farmers at a pre-established rate. During the past two years, these firms treated 2,600,739 and 4,897,954 hectares respectively, using 150 to 160 airplanes. Satisfactory progress has also been made with low-volume sprayers for the treatment of small areas.

Recently, good results have been obtained by the " strip method " of treatment, which covers only one third of the infested area. By using this method, the per hectare cost is but 5 to 6 pesos and the saving of time is considerable.

It is hoped that the experience acquired in grasshopper control will help solve other important pest control problems which endanger crops such as linseed, sunflowers, cotton, alfalfa, etc.

[1] 1 peso = $ U.S. 0.025.

Fiji

W. J. HALL

Commonwealth Institute of Entomology, London

Aphis craccivora - A New Pest

The arrival of a new pest species in Fiji, namely *Aphis craccivora* Koch, has been reported by Mr. B.A. O'Connor, Senior Entomologist, Department of Agriculture, Fiji. Specimens of the insect were identified by the Commonwealth Institute of Entomology from the host plant *Gliricidia maculata*. The species was found in large numbers in the vicinity of the New Zealand Air Force Base at Suva Point, and presumably was introduced from New Zealand.

India

K. B. LAL

Directorate of Plant Protection, Quarantine and Storage
Ministry of Food and Agriculture, New Delhi

Occurrence of Potato Wart Disease

POTATO wart disease, *Synchytrium endobioticum*, was observed during the summer of 1957 in a few areas of Darjeeling District in West Bengal. There is some evidence to suggest that the wart disease might have appeared in 1956 in the high altitude areas of West Bengal State adjoining Sikkim. The affected potato variety is locally called " red round. "

Potato wart disease had been observed previously in 1953 on the Rangbul Farm in Darjeeling District. Drastic eradication measures were undertaken by sterilizing the soil of the affected field and since then the disease has not been observed on that farm.

The suspected areas around Darjeeling District are being surveyed to ensure that the disease does not spread to other parts of India.

News and Notes

Inter-African Phytosanitary Commission

The Inter-African Phytosanitary Commission convened a meeting of experts in Nairobi, Kenya, from 14 to 18 April 1958. It was attended by representatives of the six member governments of the Commission.

The main item of discussion was the draft co-ordinated legislation for Africa south of the Sahara, to prevent the introduction of insects or diseases from other regions. In addition to recommendations on quarantine measures needed for regulating the importation of plant materials of many specific crops of importance to the region, the meeting made some recommendations on general matters. For instance, it considered that an import permit should in general be required for all plant materials subject to postentry quarantine, and that it would also be desirable to call for the permit for the importation of all materials wherever the phytosanitary certificate is requested. The meeting also suggested that the importation of vegetable-propagating material should not be authorized if the plant species or variety can be satisfactorily introduced and propagated through seed, and that the importation of rooted plants should not be authorized if unrooted cuttings, scions, budwood and seed could be satisfactorily used for such purposes.

The need to establish a network of quarantine stations to serve territories in Africa south of the Sahara was stressed by the meeting. To this end, a number of recommendations were made with regard to the standards for a quarantine station and the procedures to be adopted for its effective operation. These recommendations were mainly based on a memorandum submitted by Dr. F. M. L. Sheffield of the East African Agriculture and Forestry Research Organisation, a summary of which is published in this Bulletin.

The recommendations made by the meeting will be referred to the forthcoming session of the Commission to be held in September 1958 for consideration, and the measures submitted will be adopted by the participating governments if they are approved by the Commission.

International Horticultural Congress

The Fifteenth International Horticulturaf Congress was held in Nice, France, from 11 to 18. April 1958. Seven symposia were arranged to cover subjects of special interest, one dealing with the diagnosis and control of virus diseases.

General discussion was organized by sections. Papers on plant pests and diseases were presented under the following sections: vegetable and seed-stock growing, fruit and flower growing, and Mediterranean and subtropical plant growing. Chemical weed control in the nurseries was discussed under the section on ornamental shrub and tree growing. The papers on plant pathology and disease control referred mainly to new pesticides.

Abstracts of papers presented at the Congress can be obtained from the *Secrétariat général du XV^e Congrès international d'horticulture*, 84, rue de Grenelle, Paris VII^e.

Roma - Tip. del Senato del dott. Giovanni Bardi

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